



Wellington Institute of Technology

Te Whare Wānanga o te Awakairangi

BUSINESS POLICY MANUAL

Manual Section:	Research
Policy Number and Title:	9.1 Innovation and Research Policy
Approved by:	Academic Board and EMT
Date of Approval:	
Effective from:	
New Policy or Replacement:	Replaces QMS B11.6
Manager Responsible for the Policy:	Director Strategy and Performance

Purpose:

The purpose of this policy is to provide a framework for the development and maintenance of an innovation and research culture at WelTec that supports WelTec's strategic direction and generates revenue from the PBRF and other external sources. Specifically WelTec will support:

- discipline-based innovation and research that develops new knowledge, products and/or contributes to the development of profession/industry advanced and/or practice;
- applied research and advanced practice that underpins teaching of our degrees and high-level diplomas;
- professional practice aimed at building new knowledge and/or enhancing the teaching and learning process;
- innovative projects undertaken by staff and/or students that will result in commercialisable outputs and/or develop WelTec's position as a creative problem solver and business partner; and
- business opportunities underpinned by research and innovative practice including consultancies, product design and R&D activities.

WelTec will use a number of initiatives to support research and these are outlined in this policy. In undertaking WelTec-supported research, the academic freedom and moral rights of staff and students will be recognised. At the same time, staff and students are expected to demonstrate academic responsibility and to comply with WelTec rules and regulations regarding research and intellectual property.

Contents:

Introduction.....	3
Links.....	5
Policy Principles and Guidelines	5
Application.....	8
Statement of Responsibility	8
Evaluation.....	9
Review	9
Appendix 1 – Research Process Overview	10
Appendix 2 – Wellington Institute of Technology’s Definition of Research.	11
Appendix 3 – Innovation and Research Strategy 2010 to 2015	13
Appendix 4 - Terms of Reference for research Committee	16
Appendix 5 - Schedule of Research Weightings for Research, Scholarship and Professional Practice Outputs	17
Appendix 6 - Proposal Approval Form	18

Introduction

Innovation and research activities play an important role in creating an environment in which the optimum teaching and learning processes occur, and in which staff and students are stimulated by exposure to the development of industry best practice, the interplay of new ideas, and the spirit of enquiry. Learning at undergraduate and post-graduate levels takes place in an environment of developing and advancing knowledge, problem solving, critical evaluation, investigation and awareness of the limits of enquiry and understanding.

WelTec has chosen to focus on innovation, scholarship and applied research and to support research that:

- Supports the teaching of our degrees and high-level diplomas;
- Advances professional and industry best practice;
- Contributes to innovations in teaching and learning practice;
- Supports regional industry and business in finding solutions to business issues; and
- Develops our business through gaining research funds and/or commercialisable outputs.

WelTec bases its research management approach on the twin principles of selectivity and concentration of effort. This means first choosing areas of enquiry where researchers can make original contributions to their disciplines and/or the communities in which they live and work, and second, drawing researchers—often from separate but complementary disciplines—into groups where their skills and knowledge can be focussed on defined research objectives. At the same time, WelTec will support its staff's independent research activities where these fit with the goals of the institution.

This policy is intended to provide a framework to guide Tier 2 and 3 managers in determining which research and innovation projects the institute will support, the nature of support available and the roles and responsibilities of the parties involved.

1.1 Definitions

Academic freedom: The New Zealand Education Act 1989 enshrines the "academic freedom and the autonomy of institutions" which is "to be preserved and enhanced". A number of specific "freedoms" are described as academic freedom, and these are balanced by a description of the way in which institutions must act when exercising those freedoms. These freedoms are defined in Section 161 (2) (a) of the Act as "The freedom of academic staff and students, within the law, to question and test received wisdom, to put forward new ideas and to state controversial or unpopular opinions".

This "right" is balanced by the "responsibility" in Section 161 (3) (a): "The need for the maintenance by institutions of the highest ethical standards and the need to permit public scrutiny to ensure the maintenance of those standards".

Innovation: The introduction of new products, devices, or ways of working. It carries with it connotations of invention and problem solving. Innovation can be planned or ad hoc. Innovation includes technology development and transfer activities.

Intellectual property: The output of human intellectual endeavour, research and innovation including knowledge, designs, inventions, creations, names, marks, get-up and products, and the goodwill and reputation that is associated with these.

Research: An intellectually controlled investigation which leads to advances in knowledge through the discovery and codification of new information or the development of further understanding about existing information, and practice. It is a creative, cumulative and independent activity conducted by people with knowledge of the theories, methods and information of the principal field of inquiry and its cognate areas(s). Research typically involves either investigation of an experimental or critical nature, or artistic endeavour of the type exemplified by musical composition. The results of research must be open to scrutiny and formal evaluation by others in the field of enquiry and this may be achieved through publication in peer-reviewed books and serials, or through public presentation. Further discussion of the nature of research can be found in Appendix 1.

Scholarship: Work which is intended to expand the boundaries of knowledge and understanding within and across disciplines by the analysis, synthesis and interpretation of ideas and information, making use of a rigorous methodology.

WelTec-supported research: Research approved by the relevant T2/T3 manager for which WelTec provides some form of support. Support can include the provision of one or more of:

- Time during contracted hours to engage in research
- Resources such as access to computers, laboratory or workshop equipment, space to undertake research
- Money including support to apply for external funding
- The coordination and dissemination of relevant information including library resources
- Research guidance, mentoring and support

Links

Other policies that deal with specific topics related to research and should be read in conjunction with this policy include:

- 9.2 Human Ethics Policy
- 9.3 Animal Ethics Policy
- 9.4 Internal Funding of Research
- 9.5 External Funding of Research
- 8.4 Intellectual Property Policy
- Staff Workload Policy
- ITPQ Approval and Accreditation Of Courses Leading to Degrees and Related Qualifications.
- Commercialisable practice

Policy Principles and Guidelines

3.1 Policy Principles

Strategic fit: WelTec-supported research must fit with the institution's research strategy. The Innovation and Research Strategy 2010 – 2015 is outlined in Appendix 3. Approved directions and/or activities will be included in an annual 3-year Innovation and Research plan approved by Academic Board.

Relevance: WelTec-supported research undertaken by staff should be relevant to their role, the disciplines they teach and/or the business goals of the institution. It should contribute new knowledge, products or services, inform teaching in a WelTec programme, or lead to advanced scholarship.

WelTec-supported research undertaken by students as part of an academic programme should be relevant to their programme of study.

Excellence: All innovation and research activities shall be open to peer review at all stages to ensure excellence. All research projects must have a written research proposal approved by a T2/T3 manager or their delegate prior to it commencing.

Ethical Practice: All research undertaken within WelTec shall comply with the principles of ethical conduct, which underpin all research (See the Wellington Institute of Technology policy BPM 9.2 Human Ethics Policy and BPM 9.3 Animal Ethics Policy and will be subject to review to ensure the research methodologies are ethical and sound.

Treaty principles: Where appropriate, innovation and research activities at Wellington Institute of Technology should reflect the principles of the Treaty of Waitangi. This means that all parties involved in the research

project must respect the principles of partnership and sharing implicit in the Treaty and support kaupapa Māori approaches to research.

3.2 Policy Guidelines

The planned approach to managing innovation and research at WelTec is shown in Appendix 2.

Planning and resource allocation

WelTec will approve a five-year Innovation and Research Strategy and a three-year Innovation and Research Plan that will set out the strategic direction for research and the research priorities for the coming triennium.

A Research Committee will operate as a subcommittee of the Academic Board and will oversee the development of the research strategy, plans and policies required to provide the infrastructure to support development of the research culture at WelTec. Terms of Reference and membership of the Research Committee is attached as Appendix 4.

Research to underpin degrees and associated programmes will be encouraged and every degree discipline will be supported by at least a 0.25 FTE Research Coordinator who will be responsible for assisting the Head of School and Executive Dean to develop the research culture and achieve the research outputs necessary to maintain a degree accreditation.

People teaching on degree programme are expected to engage in research to inform their teaching. Each degree will be allocated a minimum of 1.0 FTE dedicated to research. Heads of School will determine how this FTE allocation is distributed to achieve expected research outputs.

Research expectations

All academic staff are expected to engage in innovation and research activities and to attain a minimum of 1 weighted research point per annum. A schedule of activities and their points allocation is attached as Appendix 5.

For every 0.2 FTE allocated to research, staff are expected to generate an additional 5 weighted research points.

The amount of time to be allocated to innovation and research activities will be negotiated individually with the Head of School/staff member's immediate manager and a written record of the agreement will be made agreeing research outputs to be achieved and resources provided (for example, staff time, equipment, travel).

Support will be provided to staff to assist them to gain a research grade through the PBRF quality assessment process.

All researchers will be bound by the rights and responsibilities associated with academic freedom.

Research Coordination

The Research Coordinators will provide advice to Heads of School and Executive Deans on innovation and research matters, methodologies, and research plans.

The Research Coordinators will provide the Director Strategy and Performance with monthly reports and collect information for end of year reporting for WelTec's Annual report. The Director of Strategy and Performance will provide quarterly reports to the Academic Board and will produce the Annual Research report.

Approvals

All internally generated innovation/research projects must be scoped, peer reviewed and approved by a Head of School or appropriate tier 2 manager prior to the project commencing. A research proposal form to assist approval of innovation/research projects is attached as Appendix 6. Where a project requires ethical approval, this should be approved by the Executive Dean or appropriate tier 2 manager as required by the 9.2 Human Ethics Policy.

Innovation and research projects that involve ethical considerations in relation to either humans or animals must meet the requirements of the WelTec Human Ethics and/or Animal Ethics policies as appropriate.

Student research

Where a programme of study requires students to undertake research, appropriately qualified and experienced staff will supervise this research and ensure approval of the proposal and appropriate ethical standards (both animal and human) are met, including gaining ethics approval and approval of the research proposal.

Records of all student research and their supervisor's input will be maintained.

Supporting research

In addition to providing staff time, WelTec will allocate an annual budget for innovation and research purposes. The amount allocated will be reviewed annually.

Research reporting and dissemination

Staff are encouraged to publish in refereed journals as the preferred means of publication or to exhibit in peer reviewed/curated exhibitions/shows.

Intellectual property, copyright and moral rights associated with any WelTec-supported research/innovation will be subject to the institute's policy on Intellectual Property.

Records of all research activities must be maintained using the WelTec approved records system. Full copies of all research publications, presentations, exhibitions, creative works, commercialisable products and/or consultancies must be provided to the Resource Centre for inclusion in the approved WelTec Research repository. A template for preparing research publications is attached as Appendix 7.

The institution will produce an annual report of research activities.

Application

This policy applies to all staff and students of Wellington Institute of Technology.

Statement of Responsibility

The Director Strategy and Performance is accountable for developing WelTec's Research Culture at an Institute level, for preparing the institution for assessment under the PBRF, and for coordinating the production of the Institute's 5-year Innovation and Research Strategy, 3-year Innovation and Research Plan and annual Innovation and Research Report.

Executive Deans and Heads of School are responsible for managing all aspects of research within their Faculties/Schools and for achieving innovation and research targets.

Other senior managers are responsible for managing any research within their area to ensure it complies with WelTec policies.

Research Co-ordinators are responsible for facilitating and co-ordinating research activities and for administering this policy. The Research Co-ordinator's major role will be to train, encourage, mentor and support staff to undertake research and to evaluate and improve the research output for WelTec. The Research Coordinator(s) will provide advice to Heads of Schools and Executive Deans and advocacy for researchers. In addition the Research Coordinator(s) will advise Heads of Schools/Executive Deans on research methodology, ethical considerations and funding

sources. The Research Coordinator(s) will also coordinate applications for innovation projects and assist in preparing reports on research outputs.

Evaluation

The Director of Strategy and Performance will conduct an evaluation of the effectiveness of the policy once a year.

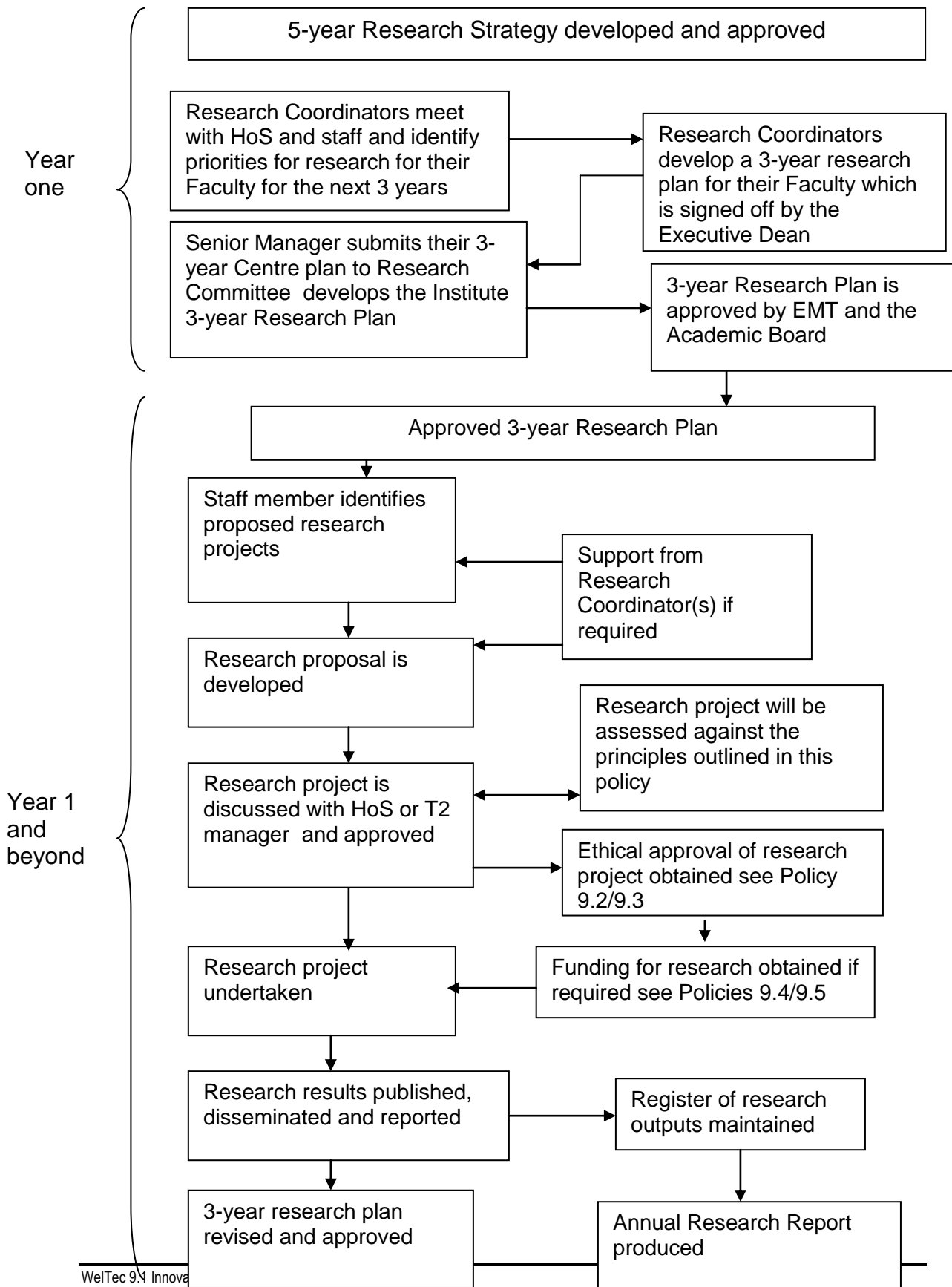
Review

This policy will be reviewed at least once every three years.

Appendices

Appendix 1	Research Process Overview
Appendix 2	Definitions of Research
Appendix 3	Innovation and Research Strategy 2010 to 2015
Appendix 4	Terms of Reference and Membership of Research Committee
Appendix 5	Schedule of Research Weightings
Appendix 6	Proposal Approval Form
Appendix 7	Publication template

Appendix 1 – Research Process Overview



Appendix 2 – Wellington Institute of Technology’s Definition of Research.¹

Research may be found in the following contexts, although they are not mutually exclusive:

- a) **basic or fundamental research:** experimental or theoretical work undertaken primarily to acquire new knowledge without any particular application or use in view.
- b) **strategic research:** work which is intended to generate new knowledge in an area which has not yet advanced sufficiently to enable specific applications to be identified
- c) **applied research:** work which develops or tests existing knowledge and is primarily directed towards either specific practical objectives or towards the evaluation of policies or practices.

Work which is intended to expand the boundaries of knowledge and understanding within and across disciplines by the analysis, synthesis and interpretation of ideas and information, making use of a rigorous methodology is likely to constitute research scholarship.

Creative work such as the invention and generation of ideas, hypotheses, images, performances or artefacts, including design, in any field of knowledge, leading to development of new knowledge, understanding or expertise is likely to constitute research scholarship.

Activities which *may* be equivalent to research if they meet one or more of the definitions outlined above include:

- **consultancy**, which involves the deployment of existing knowledge and the application of analytical and investigative skills to the resolution of problems presented by a client, usually in an industrial, commercial or professional context
- **professional practice**, some of which overlaps with consultancy when conducted at an advanced level. In certain subject areas and professions the theorisation and effectiveness of professional practice are advanced by academic staff who practise and participate in it.

¹ These definitions are based on the NZQA definitions published in The Qualifications Authority and the Performance Based Research Fund available from the NZQA (NZQA 2005)

WelTec does not regard activity mainly concerned with keeping abreast of new developments in subjects as 'research'. It is assumed that staff will, as a matter of course, keep abreast of new developments both in their subject areas and in methods of teaching and assessment.

Some activities are **excluded** from the definition of research. Those activities are:

- preparation for teaching
- the provision of advice or opinion, except where it is consistent with the definition of research above
- scientific and technical information services
- general purpose or routine data collection
- standardisation and routine testing
- feasibility studies (except into research and experimental development projects)
- specialised routine medical care
- the commercial, legal and administrative aspects of patenting, copyrighting or licensing activities
- routine computer programming, systems work or software maintenance (but note that research and experimental development into applications software, new programming languages and new operating systems is included)
- any other routine professional practice (e.g. in social sciences, counselling, hospitality or business).

Work which involves the routine application of established techniques on routine problems is unlikely to constitute research scholarship.

All research activities must be conducted in accordance with recognised ethical standards and be practised in accordance with WelTec's policy on Human Ethics see BPM 9.2 and Animal Ethics See BPM).

Appendix 3 – Innovation and Research Strategy 2010 to 2015

Innovation and Research Strategy 2010 – 2015

Innovation and Research Strategy

Research and innovation are core competencies of WelTec and as such they underpin all the work of the institution. WelTec is now in a further development phase of its research and innovation capacities. As an outward-looking institution, WelTec fosters enquiry and scholarship, develops new knowledge and new ways of doing things, develops links with its community, and shares its' knowledge and capabilities with the industries and professions it serves.

Research and innovation undertaken within the tertiary education environment – including that undertaken by the metropolitan Institutes of Technology and Polytechnics (Metros) and universities – represents a continuum that covers:

- **discovery or blue sky research** – addressing questions where the outcome is not known;
- developmental, problem-based or **applied research** – activities aimed at answering questions or problems where the fundamentals are understood, and an application is developed because of its foreseen utility;
- **creative work** and design – undertaken on a systematic basis to enhance knowledge, culture and society and to use this knowledge to devise new applications;
- **evidence-based professional practice** – addressing knowledge and practice issues within a profession that lead to innovations in practice;
- **technology transfer** – applying the results of research to a practical purpose, sharing technical information by means of education and training, or using a technical concept, e.g. a hardware or software product, to solve a problem in an industry that is entirely different from the one the technology was developed for; and
- **innovation** – designing new ways of doing something or "new stuff that is made useful". It may refer to incremental and emergent or radical and revolutionary changes in thinking, products, processes, or organizations.

Wellington Institute of Technology has a focus on supporting high quality research and innovation that has a bias towards solving problems that are relevant and applicable to the firms, industries, enterprises and professions we work with. It includes both staff and student research related to the programmes we deliver (particularly our degrees) and the innovation and technology transfer activities we engage in to support enhanced productivity of local firms. Much of this activity is related to the trades and technology disciplines we cover (regardless of whether at degree level or not) although some also relates to other activities used to lift firms productivity including researching ways to enhance staff language, literacy and numeracy, management capacity, environmental responsiveness and leadership.

WelTec's problem-based approach is unique in that we engage directly with small and medium sized enterprises (SMEs) in a way that is:

- **Willing to work** directly with firms and enterprises no matter how small
- **Responsive** to their needs rather than being driven by institutional priorities or programmes of research
- **Flexible**, working directly on the issues and problems firms and enterprises encounter and supporting seamless approaches that transfer knowledge and integrate the workplace with the expertise of staff and students of an institution with the firm's own
- **Collaborative** in building critical mass and depth of expertise nationally between ITPs, within a region with other experts and internationally with other providers.
- **Cost effective** in building community and enterprise culture, productivity and sustainability.

The transfer of new knowledge and technology to our communities of interest is an increasingly visible hallmark of WelTec research and along with the use of measures of impact that can be readily used to determine quality.

WelTec's research emphasis over the next triennium is on gaining recognition and funding from our research activities through the PBRF and the winning of research grants. We will continue to encourage collaborative and interdisciplinary approaches that will assist in the concentration of skills, and material and financial resources necessary to further develop the WelTec's recognition as a high performing ITP amongst its Metro peers.

WelTec has committed to entering the PBRF in 2012 and ensuring the institution is well positioned for this is core to this research plan. The definitions of research set by NZQA and the PBRF are contained in Appendix 1.

Innovation and Research Goals

The Innovation and Research Strategy has four goals. These are that by 2015 WelTec will:

1. Generate a minimum of \$1m per annum from research, innovation and technology development and transfer activities undertaken for or in partnership with the firms, enterprises, industries and professions we work with.
2. Achieve a minimum of \$360,000 from PBRF funding based on review of staff Evidence Portfolios and external research funding.
3. Be a lead partner in a minimum of two Centres for Technology Development and Transfer that work at the leading edge of New Zealand's innovation sector.
4. Be recognised by our peers as a leader in developing effective and innovative education and training solutions.

Objectives

In achieving these goals over the next triennium, WelTec will:

- a) Increase external funding gained from research activities including from the sale of IP, consultancies, design, prototyping and technology transfer activities and contract research by \$200,000 per annum.
- b) Continue to develop our two existing Centres of Technology Development and Transfer so they are self sustaining and work to build the Metro Innovating NZ as a sustainable entity.

- c) Build staff capacity for research and work with a minimum of 20 high performing researchers to enable them to submit evidence portfolios in the 2012 PBRF round.
- d) Undertake research projects aimed at building WeITec teaching and learning capacity and new knowledge and practice in tertiary education and training.

Anticipated performance

Measures	Means of measurement	2009	2010	2011	2012	2013	2014	2015
Number of quality assured research outputs	Research report against research plan targets	64	70	80	85	90	95	100
Number of non-quality assured research outputs		86	100	200	250	300	350	400
Number of weighted research points achieved		N/A	350	360	370	380	390	400
Income gained from research activities \$ (000)		N/A	N/A	N/A	360	360	360	360
<ul style="list-style-type: none"> • PBRF income • External research income 		373	400	450	500	600	700	1,000
Number of research/innovation and technology transfer projects completed for industry/community		47	50	55	60	65	70	75

Appendix 4 – Terms of Reference for Research Committee

Appendix 5 – Schedule of Research Weightings for Research, Scholarship and Professional Practice Outputs

1 Research outputs

Activity	Base	Research focus	Quality Assured	International
Author of book/textbook	2		+6	+4
Author of chapter of a book	1		+2	+1
PBRF ranked journal paper	2		+2	+2
Conference paper in published proceedings.	1.5		+2	+2
Conference presentation (verbal presentation or participation on a discussion panel)	1			+1
Reviewed book in recognised journal	1			+1
Report for external body	1			+1
Consultancy (+report)	0.5			+0.5
Commercialisable output	4			
Patent/Software product (+report)	4			
Degree awarded	PhD 6 Masters 3 PG Dipl 1			
Exhibition Curation (including catalogue with ISBN registration)	1	+2	+2	+2
Dissemination of Creative Works (eg. exhibition, on-line circulation, performance, print publication)	1	+2 (eg. major solo show as the outcome of a single body of work)	+2 ³	+2
Film festival screening	2		+2 (A-list)	+2
Composition performance	2		+2	+2

2 Peer esteem

Activity	Base	International
Research related award	2	+2
Invited to give keynote address/visit/produce a commissioned work	2	+3
Appointment to professional body	2	+1
Invitation to write Editorial/ Editorial written	1	+1
Published review commending work	1	+1
Industry-led R&D/technology transfer	1	+2

3 Contribution to the research environment

Activity	Base	International
Membership of research collaboration	2	+1
Formal supervision of colleague's research	1	
Membership of faculty research committee	1	
Director of research centre	2	
Generation of externally funded research	<\$50,000 1 \$50,000->\$99,999 2 >\$100,000 3	
Supervision/examination of undergraduate research	1	

Activity	Base	International
Supervision of/examination of student research (Masters/PhD)	2	
Organizing conference/exhibition/ competition	1	+1
External reviewing and/or thesis assessment	1	+1
Editorial board membership	2	+1
Judging competition(s)	0.5	+1

4. Scholarship and professional practice outputs

Activity	Base	International
Magazine/trade journal article	1	+1
Non-PBRF ranked journal article	1.5	+1
Technical presentation to colleagues	0.5	
Return to industry leave (one week or more) (+ report)	0.5	
Sabbatical Leave (+report)	0.5	
Winning competition (S)(mentored student or self) (+report)	0.5	+1
Judging competition(s) (+report)	0.5	+1
Professional/technical practice work (+ report)	0.5	
Advisory/Standards board membership	1	
Advanced study towards recognised qualification	1 (+1 if it is a research based degree)	

Notes:

The points: The base value of the activity will be supplemented by additional points if it has a research focus, is held at a major venue, is quality assured, or if it is in the international arena.

For example:

- If you present a research paper at a New Zealand conference you will achieve one point, but if it is an international conference you will achieve an additional point. If your paper is published in the conference proceedings you will achieve an additional 1.5 points and if it is refereed you will achieve another 2 points. This will give you a total of 5.5 points.
- If you have an article published in a New Zealand trade magazine you will achieve one point but if it is a magazine that is published outside New Zealand you will achieve an additional point. This will give you a total of two points.

Quality assured: this means that your work has been peer reviewed or refereed. For creative works this would involve a competitive proposal submission, assessed by a curatorial panel.

Reports: these need to be approximately four pages, submitted to your research co-ordinator. Academic and professional practice reports need to be approximately two pages.

Appendix 6 – Proposal Approval Form

Proposed research/innovation activity:	<i>Is this a: survey or questionnaire research project, creative work, innovation project, R&D/product development project scholarship activity peer esteem activity or professional practice/consultancy project</i>
Project title:	
Researcher(s)/consortium/project participants:	
School/Business Unit:	
Supervisor/sponsor (if known and applicable):	
Proposed starting date:	
Proposed completion date:	
Resource requirements	<i>Include: Staff time Equipment Facilities Other resource requirements</i>
Proposed source of funding if applicable:	
Considerations: (if any identified please complete section 1(f))	<i>Does the project have any: Conflicts of interest Ethical considerations Constraints Dependencies Limitations</i>

SECTION 1 – GENERAL

(a) Objectives of the project (briefly outline)

(b) Method including processes used and methods of data collection (if any)

Attach any surveys, questionnaires, tests to be used

Include recruitment method and selection criteria for any participants

*Include brief outline of ethical considerations including reimbursement, confidentiality, informed consent
Refer Human Ethics Policy for more details*

(c) Benefits and value of the project

(d) Reporting, presentation and publication of results
<i>Planned route may include</i>
<i>Publication route</i>
<i>Conference presentation/workshop/seminar</i>
<i>Commercialisation potential/process</i>
<i>Exhibition, performance</i>
(e) Qualifications this research, teaching or administration may contribute to (if any)
(f) Potential Problems:
<i>Explain whether the activity will use WelTec staff or students, if there is a risk of harm or discomfort to participants, any potential legal problems, if a censorship rating will be required, problems with community relations or controversy, or any potential or real conflicts of interest.</i>
(g) Treaty of Waitangi
Indicate how the research proposal is consistent with the Treaty of Waitangi.

Printed Name and Signature of Researcher:	
Date:	

Name of peer reviewer(s):	
Comments:	
Date:	

Signature of Head of School /Manager /Executive Dean Approving Research:	
Comments:	
Date:	

Approved/Declined subject to the following conditions: